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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,536	07/28/2006	John Murkowski	US040118US	4273

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EXAMINER

NGUYEN, HIEN NGOC

ART UNIT

PAPER NUMBER

3768

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/597,536

Applicant(s)

MURKOWSKI ET AL.

Examiner

HIEN NGUYEN

Art Unit

3768

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/CDC)
Paper No(s)/Mail Date 07/28/2006
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7-9, 10-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris et al. (US 5,924,988) and in view of Matsushita Electric Ind Co Ltd (JP 05-015529).

Regarding claims 1 and 10-12, Burris discloses an ultrasonic diagnostic imaging system including a main body housing imaging electronics a control panel coupled to the imaging electronics comprising:

- a flat panel display electrically coupled to the imaging electronics; (see abstract; Figures 1, 2 and 5, element 530).
- an articulating arm assembly to which the flat panel display is connected for adjusting the viewing position of the flat panel display, the articulating arm assembly including a first arm movably mounted to the main body and a second arm movably connected to the first-arm and to the flat panel display; (see Fig. 5, first arm is element 570, second arm is element 560, connected by hinges 550 and 580 and see column 6, lines 12-20).

However, Burris does not disclose the arm includes a 4-bar linkage, a pneumatic piston and an adjustment mechanism for the piston to provide a balancing counter-weight force. In the same field of endeavor Matsushita Electric discloses the arm includes a 4-bar linkage, a pneumatic piston and an adjustment mechanism for the piston to provide a balancing counter-weight force ([0014-0015], Fig. 1, elements 9, 10 and 17, the piston rod (element 16) can expand and contract to adjust to the weight force of the monitor section as it moves in vertical or horizontal direction).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Burris's system to include the arm includes a 4-bar linkage, the piston and the adjustment mechanism for the piston as taught by Matsushita Electric because this would improve the movement of the display panel, the piston would support the weight of the display and balance the expansion and contraction of the monitor section.

Regarding claim 2, Burris discloses:

- a wheeled cart on which the main body is mounted; (see Fig. 4, element 410).

Regarding claim 3, Matsushita Electric discloses:

- the second arm includes a 4-bar linkage; (see [0014], Fig. 1, elements 9 and 10).

Regarding claim 4, Burris discloses first and second arms connected together, connected to the main body and connected to the display panel (see Fig. 5, first

arm is element 570, second arm is element 560, connected by hinges 550 and 580 and see column 6, lines 12-20). However, he does not disclose 4-bar linkage with pivot axes at both ends. In the same field of endeavor, Matsushita Electric discloses 4-bar linkage with pivot axes at both ends (see [0014], Fig. 1, elements 9 and 10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Burris's system to include the 4-bar linkage includes first and second pivot axes located at an end of the second arm which is connected to the first arm, and third and fourth pivot axes located at an end of the second arm which is connected to the flat panel display as taught by Matsushita Electric because this would improve the movement of the flat panel display.

Regarding claims 5 and 7-9, Burris discloses:

- an inter-arm locking mechanism, located on the first and second arms, which acts to lock the two arms together, thereby restricting relative motion between the two arms; (see Fig. 5, element 550 and col. 6, lines 13-20). The hinge is the inter-arm locking mechanism that locks the two arms together.
- the articulating arm assembly further includes a first vertical pivot axis located at an end of the first arm which is movably mounted to the first body, and a second vertical pivot axis located at an end of the first arm which is connected to the second arm; (see Fig. 5, elements 560 and

570). It is inherent the system has to have first and second vertical pivot axis at the end of the arms in the order for the arms to move vertically.

- the articulating arm assembly further includes a third vertical pivot axis located at an end of the second arm which is connected to the flat panel display, and a horizontal pivot axis located at the end of the second arm which is connected to the flat panel display; (see Fig. 4 and 5). It is inherent that the system arms have a vertical and horizontal pivot because the system can move vertical and horizontal.
- the arc of travel of the first arm about the first vertical pivot axis is constrained to be less than 360° , and wherein the arc of travel of the second arm about the second vertical axis is constrained to be less than 360° ; (see Fig. 5, elements 560 and 570). It is inherent that the first and second arm can not travel 360° or more because other components of the system are in the way. The first and second arm would break if travel 360° or more.

Regarding claim 14, Matsushita Electric discloses:

- wherein the 4-bar linkage includes first and second upper bars coupled between the first and third pivot axes and third and fourth lower bars coupled between the second and fourth pivot axes, wherein the first bar is rigidly connected to the second bar and the third bar is rigidly to the fourth bar; (see Fig. 1 and [0014]). It is inherent that the 4-bar linkage is

connected in this way in order to support the display section weight and allow the display to move in the vertical and horizontal direction.

3. Claims 6, 13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris et al. (US 5,924,988), in view of Matsushita Electric Ind Co Ltd (JP 05-015529) and further in view of Miller et al. (US 6,669,639).

Regarding claim 6, Burris and Matsushita Electric disclose substantially all claim limitations set forth in claim 5. However, they do not disclose a user-operated lock release. In the same field of endeavor, Miller discloses a user-operated lock release (col. 3, lines 24-64).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Burris's system to include a user-operated lock release as taught by Miller because the user-operated lock release allows the arm mechanism to operate freely at the option of the user.

Regarding claims 13 and 15, Burris discloses:

- a flat panel display electrically coupled to the imaging electronics; (see Fig. 5, element 530).
- first and second arm elevated above the connection to the main body; (see Fig. 5, element 560 and 570).

However, he does not disclose an arm that includes a 4-bar linkage and an articulating arm assembly coupled to the flat panel display to enable repositioning of the flat panel display, the articulating arm assembly including: a first arm

exhibiting a fixed upward inclination from a first mounting end and a second joint end and a second arm exhibiting a variable inclination from a first end which is coupled to the second joint end of the first arm, and a second end which is coupled to the flat panel display . In the same field of endeavor Matsushita Electric discloses a 4-bar linkage ([0014], Fig. 1, elements 9 and 10). In the same field of endeavor, Miller discloses an articulating arm assembly coupled to the flat panel display to enable repositioning of the flat panel display, the articulating arm assembly including: a first arm exhibiting a fixed inclination from a first mounting end and a second joint end and a second arm exhibiting a variable inclination from a first end which is coupled to the second joint end of the first arm, and a second end which is coupled to the flat panel display (see col. 2, lines 24-42 and col. 3, lines 20-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Burris's system to include an articulating arm assembly coupled to the flat panel display to enable repositioning of the flat panel display, the articulating arm assembly including: a first arm exhibiting a fixed inclination from a first mounting end and a second joint end and a second arm exhibiting a variable inclination from a first end which is coupled to the second joint end of the first arm, and a second end which is coupled to the flat panel display as taught by Miller because this enable the articulating arm and display device to easily move upward and rotate forward.

Regarding claim 16, Matsushita Electric discloses:

- the second arm includes a 4-bar linkage for variable inclination; (see [0014], Fig. 1, elements 9 and 10).

Regarding claim 17, Burris discloses:

- a first pivot axis located at the first mounting end of the first arm; a second pivot axis located at the second joint end of the first arm, and a third pivot axis located at the second end of the second arm; it is inherent the system has the first, second and third pivot axis at the end of the arms in the order for the arm to move vertically and horizontally.

4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burris et al. (US 5,924,988) in view of Mesaros et al. (US 2003/0220565).

Burris discloses:

- a flat panel display electrically coupled to the imaging electronics; (see Fig. 4, element 430).
- an articulation mechanism, having a mounting end coupled to the wheeled cart or main body and a second end coupled to the flat panel display, and operable to laterally reposition the viewing position of the flat panel display; (see Fig. 4, elements 440 and 450).

However, he does not disclose a control panel located on the wheeled cart and electrically connected to the imaging electronics, the control panel being laterally articulable. In the same field of invention, Mesaros discloses a control panel

located on the wheeled cart and electrically connected to the imaging electronics, the control panel being laterally articulable (abstract and [0003]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Burris's system to include a control panel located on the wheeled cart and electrically connected to the imaging electronics, the control panel being laterally articulable as taught by Mesaros because the control panel can move laterally allow the operator to be more comfortably operate the ultrasound system.

5. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris et al. (US 5,924,988), in view of Mesaros et al. (US 2003/0220565) and further in view of Matsushita Electric Ind Co Ltd (JP 05-015529).

Regarding claim 19, Burris discloses:

- the articulating mechanism includes first and second articulating arms; (see Fig. 5, first arm is element 570, second arm is element 560, connected by hinges 550 and 580 and see column 6, lines 12-20).

However, he does not disclose at least one of the arms includes a 4-bar linkage.

In the same field of endeavor Matsushita Electric discloses:

- one of the arms includes a 4-bar linkage; (see [0014], Fig. 1, elements 9 and 10).

Regarding claim 20, it is inherent that Burris's system has plurality of vertical pivot axes in order to move the flat panel display laterally. However, Burris does

not disclose a 4-bar linkage which enables vertical articulation of the flat panel display. In the same field of endeavor Matsushita Electric discloses a 4-bar linkage which enables vertical articulation of the flat panel display (see [0014], Fig. 1, elements 9 and 10).

Conclusion

These are prior arts use in the rejection: US 5,924,988; US 2003/0220565; US 6,669,639; Matsushita Electric Ind Co Ltd (JP 05-015529).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HIEN NGUYEN whose telephone number is (571)270-7031. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571)272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. N./
Examiner, Art Unit 3768

/Long V Le/
Supervisory Patent Examiner, Art Unit 3768

